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ABSTRACT

Because social attitudes constitute a salient feature of the environment in which people grow old, the measurement of attitudes toward the aged has been of concern to gerontologists for many years. An instrument is needed to provide independent estimates of information about the aged from attitudes toward aged persons. Undergraduates (N=311) completed the Adult Perception Scale (APS), a 40-item questionnaire measuring information and attitudes about the aged. The 20 items concerning knowledge about the physiological, cognitive, social, and perceptual characteristics of the aged included an equal numbers of positively- and negatively-biased statements. Half of the attitudinal items represented subjective evaluations about the personal qualities of the aged, while the other ten items concerned treatment of the aged by society. Within each group of 10 items, half were positively worded and half were negatively worded. Analysis of the internal structure of the APS revealed considerable overlap for negatively-worded attitude and information items. Positively-worded items retained distinct separation: positive attitude items and personal and social distinctions were drawn. Based on these findings, revisions of the scale were made. (Author/NRB)

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The Relationship between Information and Attitudes about the Aged

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Abstract

A measure is described designed to provide independent estimates of information about the aged from attitudes toward aged persons. The Adult Perception Scale contains 20 items concerning knowledge about the physiological, cognitive, social, and perceptual characteristics of the aged. Half of these items represented positively-biased statements and half represent negatively-biased information. Moreover, half within each bias category are correct and half are incorrect. Half of the attitudinal items represent subjective evaluations about the personal qualities of the aged and the other half concern treatment of the aged by society. Within each group of 10 items, half are positively-worded and half are negatively worded. Data on the internal structure, scale scores, items, and differential effect of a course on aging are included from two subsamples of undergraduates. Suggested revisions and preliminary results of a modified version are discussed.

The measurement of attitudes toward the aged has been of concern to gerontologists for almost 30 years. Stimulation for this research arises from the implicit assumption that social attitudes constitute a salient feature of the environment in which people grow old (Bennett & Eckman, 1973; Butler & Lewis, 1977; McTavish, 1971; 1977). Debate exists, however, over whether these attitudes are more negative than positive. Part of the reason for this debate is that the conclusions made about the nature of social attitudes toward the aged seem to vary according to the measurement instruments, and designs of the individual studies. To date, there exists no attitude scale that adequately fulfills the criteria of reliability and validity (Kogan, 1979).

The present paper is a report on the second and third versions of a paper-and-pencil instrument designed to measure attitudes toward the aged independently of information about the aged. Failure to distinguish clearly between these two components was considered a major conceptual flaw in previous instruments intended to measure attitudes. The scales to be reported on here are ultimately to be used in research linking attitudes toward the aged with attributions regarding the abilities of specific older people whose behaviors are being observed by young adult subjects. This will provide "cross-level" data of the type that Kogan (1979) referred to as a desirable objective for future research.

Method

Sample

In the fall of 1979, two subsamples of undergraduate students at the University of Rochester completed the questionnaire: (a) 279 Introductory Psychology students, and (b) 32 students enrolled in the first author's Human Aging course. Scores from the 24 Human Aging students who completed the questionnaire on the first and last days of class were compared to scores from the 127 Introductory Psychology students who were tested six weeks after their initial test.

Instrument

The Adult Perception Scale (APS) consists of two subscales: Information, and Attitudes, with each subscale containing 20 items. Within the Information subscale, there were four categories with five items in each. These categories were constructed on the extremes of two dimensions: (1) Positive-Negative item favorableness; and (2) Correct-Incorrect item accuracy. Positively-worded items were those which characterized the aged as possessing physical, and behavioral, and social attributes about which social myths exist that the aged show decline. Negatively worded items, in contrast, were statements characterizing the aged as showing decline and deterioration. The correctness of items was empirically-based, either on frequently reported clinical observations or actual experimental or quasi-experimental research. The Information items were drawn almost equally from the topics of health, cognitive functioning,perception, and socialization.

Attitudinal items, in contrast, were based on evaluative judgments whose validity cannot be empirically demonstrated. These items fell into four categories with five items in each, based on two dimensions: (1) Positive-Negative item favorableness, and (2) Personal-Social locus of evaluation. The Positive-Personal items included stereotypic statements centering around the "sweet little old lady" image, while Negative-Personal items depicted the "crank". Items in the Positive and Negative Social categories, in contrast, varied according to whether the aged were characterized as being "victims" of a harsh society (these were the "Positive" items) or as responsible for their misfortunes and a drain on society.

Each item consisted of a descriptive statement which respondents were to rate as true of most (4), many (3), some (2), or few (1) people over the age of 65 years. This format was adopted to avoid having respondents make between-age group comparisons (Kogan, 1979). It also eliminated redundancy across the

item stems. Finally, in the typical agree-disagree format, with items such as "Most old people are...", gradations along the rating scale are on a different dimension (agreement) than the judgments that the respondent is being asked to make (frequency).

The items by category are shown in Table 1. Scores for each category

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Insert Table 1 about here

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were derived through addition of the item ratings (with substitution of the mean for missing items). The scores for each category could, therefore, range from 0 to 20.

Procedure

Respondents were requested to read and complete the instructions and cover sheet, which provided an example of an item and the 4-point scale. Following this, respondents were asked to complete each of the 40 items on the following page. No indication was given at the time of pre-test that a post-test would be conducted.

Results

Internal Structure

The internal reliability (Cronbach's alpha), based on the Introductory Psychology total pre-test subsamples and test-retest correlations for retested students in that subsample are shown in Table 2. As can be seen, the items

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Insert Table 2 about here

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within the Attitude subscale categories were more highly correlated than within the Information subscale categories, with the exception of Negative Incorrect Information and Negative Social Attitudes which showed the opposite pattern.

Factor analyses were conducted to further clarify the nature of the underlying structure of the APS. The Introductory Psychology pre-test data were used in a principal axis factor analysis (Gorusch, 1974). The original communality estimates were squared multiple correlations. Following a sequence of iterations designed to achieve the fewest factors which would still account for the most possible variance, a four-factor solution accounting for 63% of the variance was retained and a Promax rotation performed. Those items with loadings greater than .30 on one factor are displayed in Table 3.

Insert Table 3 about here

Factor 1 has a mixture of Negative Attitude and Information items. Factor 2 has only Positive Personal Attitude items. Factor 3 has four of the Positive Social Attitude items, with the fifth item on the factor corresponding closely in content. Finally, Factor 4 contains Positive Information items, Correct and Incorrect.

The stability of these factors was assessed by conducting a replication of the full pre-test sample factor analysis on the data from the 127 Introductory Psychology students who completed the APS twice. (Both pre- and post-test analyses yielded equivalent factor patterns as the original factor analysis). The correlations between pre- and post-test factor scores for Factors 1 through 4 were: .64, .50, .50, and .57.

Comparisons of mean scores per item for the subscale categories by subsample were conducted in order to assess the effects of item wording and content on pre-test scores. For both Information and Attitude subscales, a 2 (subsample) X 4 (category) analysis of variance was conducted, with repeated measures on the second factor. Only the respondents with pre- and post-test scores were included,

to offset the disproportionate cell sizes between subsamples. A least-squares solution was then used to correct further for the unequal n's. The means used in these analyses are shown in Table 4.

Insert Table 4 about here

For Information, both subsamples had the highest scores on Incorrect scales F (3,447) = 2.66, $p < .05$, meaning that they were responded to with relative accuracy even by people who would not be expected to possess the correct information. The Positive Incorrect scores were significantly higher than Negative Incorrect, $p < .01$, Scheffé comparison. The Human Aging class had higher pre-test scores across all scales than Introductory Psychology students, $F(1,149)=3.84$, $p < .05$. The Attitude subscale categories differed across both subsamples, with Positive categories receiving lower scores than the reversed Negative category scores $F(1,149)=4.71$, $p < .05$. Thus, respondents were less willing to endorse positive statements as applying to "most" aged persons than they would state that "few" aged persons fit the negative descriptions contained in the Negative Attitude items.

Residual change scores were calculated for the two subsamples to determine whether the effect of course content on aging would be demonstrated with the APS. For the information subscale categories, there was a significant effect only for the Category X Subsample interaction, $F(3,447)=16.35$, $p < .01$. Scores on the Positive Correct and Incorrect categories increased (became more correct) for the Human Aging, but not the Introductory Psychology subsample. Negative Incorrect scores increased (became less incorrect) for the Human Aging subsample only. For Attitude items, there was only a significant effect of Subsample, $F(1,149)=10.65$, $p < .01$, indicating that the Human Aging class members generally became

both less positive and less negative as a result of the course.

Item Analyses

Item data were examined in order to determine whether there were particular items that accounted for the general subscale findings or if the effects were uniform within subscales. This analysis was oriented toward identifying items in need of revision. The Information items are displayed in Table 5. Of the Positive

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Insert Table 5 about here

Correct items, item 9 received the highest score and 25 the lowest. Item 14 of the Negative Correct category received the highest ratings and item 30 the lowest. Several items in the Incorrect categories reversed received particularly high (correct) scores, apparently accounting for the overall low scores for these categories compared to Correct items. These were items 10, 13, 21, 26, and 37. At least four of these items appear to present wording problems because respondents are given two quantifiers to evaluate, one in the item and one in the rating scale (items 10, 13, 26, and 37). Item 21 is not specific enough about how the aged are affected by temperature changes. It is also possible that the content of these items was not sufficiently difficult.

The Attitude items are shown in Table 6. Negative scores are reversed in this table.

Insert Table 6 about here

Of the Positive Personal items, number 35 was rated particularly highly. Item 19 received the lowest scores. Item 32 of the Positive Social category was even lower than item 19. It appeared that "tolerant" and "isolated" were considered less

characteristic of the aged than "enjoy children". The Negative categories, which were generally higher than Positive, included three items from the Negative Social (4, 20, and 28) and one from the Negative Personal (39) that received particularly positive ratings. These items may have been worded overly strongly.

Although individual significance tests were not performed on the items, visual inspection of mean differences between pre- and post-testing for the Human Aging subsample suggested that some items were particularly sensitive to the course content. The post- minus pre-test scores by item are shown in Table 7. Similar

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Insert Table 7 about here

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comparisons are not shown for the Introductory Psychology subsample, since changes from pre to post were negligible when examined item by item.

Of the Information items, four in the Positive Correct category showed large increments as did four of the Negative Incorrect. Positive and Negative Incorrect items may have shown a floor effect. Only Negative Attitude items showed an effect of the course, and this was in a positive direction.

Discussion

Analysis of the internal structure of the APS revealed that there was considerable overlap for negatively-worded Attitude and Information items. Positively-worded items retained fairly distinct separation. For the Positive Attitude items, the Personal and Social distinction was maintained.

Comparisons of subscale scores by item category showed that Positive Incorrect items received high scores initially and were not sensitive to the effects of the course on Human Aging. Some of the items in these categories appeared to present

wording difficulty, or they were simply too easy. Positive Correct Information items, in contrast, were not overly high at pretest and showed sensitivity to the course. Negative Incorrect items were more difficult initially and changed more as a result of the course than Positive Incorrect items. Negative Correct items did not appear to reflect course exposure, although pre-test scores were well within the middle points on the rating scale. More Negative Attitude items were responded to favorably than Positive, and the remaining Negative items changed in a favorable direction following exposure to the course.

Based on these findings, the following revisions appeared necessary: (1) rewriting Negative Information items so that they would not contain an attitudinal component; (2) making Negative Social items more comparable in wording and content to Positive Social items; and (3) increasing the difficulty of Positive Incorrect Information items. These revisions were made along with sampling equally among content areas for the Information items, re-formatting the items on the page, and reducing diversity of syntax among the items. The revised Information items are shown in Table 8 and the Attitude items in Table 9.

Insert Tables 8 and 9 about here

An attempt will be made to determine if the patterns of results from the new APS parallel those obtained with its predecessor, i.e. Correct-Incorrect and Positive-Negative differences and overlap of Negative items. Should this occur, then it would seem likely that the relationships observed here are not a function of specific items but generalize to the underlying structure of the instrument. As such, they would represent a partial inseparability of subjective and objective evaluations of the aged, particularly with regard to negatively-worded statements.

Preliminary results from the current semester's pre-testing of Introductory Psychology students (n=185) suggest some improvements in separating Negative Correct Information from Attitude items, but a considerable overlap between Negative Incorrect Information items and Negative Attitude items (see Table 10). Inter-item mean differences also appear similar to those observed with the previous APS (see Tables 11 and 12).

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Insert Tables 10, 11, and 12 about here

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TABLE 1

APS Items by Subscale and Item Category

Information

	Positive	Negative
Correct	1. Achieve high scores on vocabulary tests (C) 9. Able to learn new information (C) 17. Responsive to sexual stimulation (A) 25. Contract few acute illnesses (E) 33. Economically independent of own children.	6. Vulnerable to fraudulent financial schemes (D) 14. Have less efficient circulatory systems (A) 22. Slow at solving unfamiliar problems (C) 30. Have restricted mobility of arms and legs. (A) 38. Have impaired hearing for high sounds (B)
Incorrect	5. Have wide range of available social roles. (D) 13. Need few special medical services (E) 21. Unaffected by changes in temperature (B) 29. Good vision for objects a short distance away. (B) 37. Achieve high scores on tests requiring speed. (C)	2. Live in nursing homes. (D) 10. Derive limited benefit from exercise. (E) 18. Require large amounts of sleep (A) 26. Remember only a small amount of what they learn. (C) 34. Very sensitive to pain. (B)

Attitudes

	Positive	Negative
Personal	3. Wise because of their experience. 11. Kindly to others in need 19. Tolerant of other people's faults. 27. Even-tempered and stable. 35. Enjoy being with children.	7. Preoccupied with thoughts of illness. 15. Live in the past. 23. Forgetful and absent-minded. 31. Stern and reserved. 39. Care mostly about themselves.
Social	8. Treated unfairly by society. 16. Prevented from earning a living. 24. Rejected by young people. 32. Kept isolated from their communities. 40. Forced into poverty by inflation.	4. Take more than give to society. 12. Planned improperly for old age. 20. Prefer not to support themselves by working. 28. Let homes get shabby and dilapidated. 36. Reluctant to adjust to social change.

A=Physiological
B=Perceptual
C=Cognitive
D=Social
E=Health

Table 2

APS Reliability Data

Subscale	Category	Cronbach's α (n = 248)	Test-retest r (n = 127)
Information	Positive Correct	.38	.51
	Negative Correct	.49	.50
	Positive Incorrect	.37	.51
	Negative Incorrect	.60	.62
Attitudes	Positive Personal	.63	.56
	Negative Personal	.68	.68
	Positive Social	.65	.57
	Negative Social	.54	.61

Table 3

Principal Axis Factor Analysis

Promax Factor Pattern

Factor	Loading	Scale		Item
1	-.40	NI	2.	Live in nursing homes.
	-.34	NS	4.	Take more than give to society.
	-.40	NP	7.	Preoccupied with thoughts of illness.
	-.30	NI	10.	Derive limited benefit from exercise.
	-.50	NP	15.	Live in the past.
	-.45	NI	18.	Require large amounts of sleep.
	-.46	NS	20.	Prefer not to support themselves by workin
	-.51	NC	22.	Slow at solving unfamiliar problems.
	-.64	NP	23.	Forgetful and absent-minded.
	-.66	NI	26.	Remember only a small amount of what they learn.
	-.37	NC	30.	Have restricted mobility of arms and legs.
	-.39	NP	31.	Stern and reserved.
	-.48	NI	34.	Very sensitive to pain.
	-.43	NS	36.	Reluctant to adjust to social change.
	-.34	NC	38.	Have impaired hearing for high sounds.
	-.55	NP	39.	Care mostly about themselves.
2	.39	PP	3.	Wise because of their experience.
	.59	PP	11.	Kindly to others in need.
	.59	PP	19.	Tolerant of other people's faults.
	.42	PP	27.	Even-tempered and stable.
	.50	PP	35.	Enjoy being with children.
3	.56	NC	6.	Vulnerable to fraudulent financial schemes.
	.71	PS	8.	Treated unfairly by society.
	.44	PS	24.	Rejected by young people.
	.45	PS	32.	Kept isolated from their communities.
	.58	PS	40.	Forced into poverty by inflation.
4	.38	PC	1.	Achieve high scores on vocabulary tests.
	.49	PI	5.	Have wide range of available social roles.
	.40	PC	9.	Able to learn new information.
	.41	PI	13.	Need few special medical services.
	.50	PI	37.	Achieve high scores on tests requiring speed.

Note: PC = Positive Correct Information
NC = Negative Corrective Information
PI = Positive Incorrect Information
NI = Negative Incorrect Information
PP = Positive Personal Attitudes
NP = Negative Personal Attitudes
PS = Positive Social Attitudes
NS = Negative Social Attitudes

Table 4

Means and Standard Deviations per Item by Subscale Category and Subsample

Subscale	Category	Subsample			
		Introductory Psychology		Human Aging	
		M	sd	M	sd
Information[a]	Positive Correct	2.48	.43	2.53	.56
	Negative Correct	2.51	.47	2.41	.46
	Positive Incorrect	3.18	.40	3.17	.42
	Negative Incorrect	2.81	.48	3.13	.42
Attitudes[b]	Positive Personal	2.83	.38	2.83	.47
	Negative Personal	2.81	.49	3.08	.50
	Positive Social	2.80	.55	2.47	.63
	Negative Social	2.92	.45	3.07	.39

[a]Incorrect scores reversed.

[b]Negative scores reversed.

Table 5

Information Item Statistics by Subsample

Item Category	Item	Introductory Psychology M	sd	Item-Total r	Test-Retest r	Human Aging M	sd	Item-total r	Test-Retest r
Positive Correct	1	2.57	.66	.21	.29	2.56	.72	.27	.25
	9	2.86	.90	.28	.40	3.16	.92	.60	.66
	17	2.27	.88	.29	.58	2.59	1.04	.51	.47
	25	2.03	.70	.06	.14	1.88	.66	.38	-.18
	33	2.66	.85	.15	.46	2.44	.80	.47	.05
Negative Correct	6	2.66	.83	.17	.45	2.59	.98	.01	.54
	14	2.96	.82	.27	.19	2.78	.87	.35	.45
	22	2.36	.77	.24	.48	2.16	.57	.17	.36
	30	2.12	.80	.43	.33	2.06	.84	.42	.12
	38	2.41	.80	.28	.40	2.47	.92	.12	.15
Positive Incorrect[a]	5	3.00	.85	.24	.46	2.94	.91	.26	.43
	13	3.13	.82	.20	.17	3.19	.78	.42	-.12
	21	3.45	.69	.12	.38	3.47	.67	.35	.17
	29	2.84	.87	.02	.50	2.87	.91	-.08	.48
	37	3.39	.57	.30	.31	3.62	.49	.26	.25
Negative Incorrect[a]	2	2.78	.69	.33	.54	2.81	.82	.24	.20
	10	3.03	.89	.28	.40	3.44	.84	.02	.21
	18	2.67	.86	.35	.59	2.94	.76	.32	.48
	26	3.22	.68	.40	.42	3.62	.49	.18	.50
	34	2.47	.77	.44	.60	2.75	.80	.44	-.15
n		248		248	127	32		32	34 32

[a]Reversed

Table 6

Attitude Item Statistics by Subsample

Item Category	Item	Introductory Psychology M	sd	Item-total r	Test-Retest r	Human Aging M	sd	Item-total r	Test-Retest r
Positive Personal	3	2.82	.75	.19	.53	3.00	.62	.20	.24
	11	2.99	.76	.30	.42	3.03	.74	.33	.38
	19	2.42	.75	.26	.37	2.72	.81	.05	.01
	27	2.55	.75	.21	.34	2.72	.68	.14	.34
	35	3.35	.69	.30	.37	3.22	.66	.01	-.22
Positive Social	8	3.05	.85	.46	.55	2.72	1.02	.41	.37
	16	2.84	.87	.39	.24	3.00	.92	.36	.57
	24	2.97	.80	.29	.51	2.81	.74	.39	.37
	32	2.38	.84	.20	.36	2.28	.96	.34	.07
	40	2.76	.82	.30	.50	2.78	.87	.15	.47
Negative Personal [a]	7	2.49	.86	.51	.37	2.66	.90	.53	.47
	15	2.62	.83	.54	.53	2.84	.81	.32	.54
	23	2.68	.67	.51	.38	3.09	.64	.49	.32
	31	3.01	.69	.25	.34	3.22	.66	.36	-.06
	39	3.28	.71	.50	.43	3.62	.55	.41	.29
Negative Social [a]	4	3.06	.75	.36	.39	3.41	.62	.21	-.19
	12	2.62	.76	.43	.64	2.53	.92	.32	.51
	20	3.25	.80	.36	.30	3.53	.57	.35	.27
	28	3.39	.66	.34	.45	3.53	.57	.37	.67
	36	2.28	.79	.44	.38	2.47	.72	.25	-.23
n		248		248	127	32		32	34

[a] Reversed

Table 7

Items Showing Largest Pre-Post Differences for Human Aging Class[a]

Pre-test M	Pre-test sd	Post-test M	Post-test sd	Difference (Post-Pre)	Scale	Item
2.58	.72	3.25	.61	.67	PC 1.	Achieve high scores on vocabulary tests.
2.58	1.06	3.33	.82	.75	PC 17.	Responsive to sexual stimulation.
1.92	.72	2.21	.88	.29	PC 25.	Contract few acute illnesses.
2.46	.83	2.83	.82	.37	PC 33.	Economically independent of own children.
2.17	.48	2.63	.88	.46	NC 22.	Slow at solving unfamiliar problems.
1.63	.71	1.25	.44	.38	PI 21.	Unaffected by changes in temperature.
2.13	.85	1.29	.55	.84	NI 2.	Live in nursing homes.
1.54	.78	1.17	.48	.37	NI 10.	Derive limited benefit from exercise.
2.13	.80	1.71	.55	.42	NI 18.	Require large amounts of sleep.
2.21	.88	1.91	.67	.30	NI 34.	Very sensitive to pain.
2.50	.93	2.08	.83	.42	NS 12.	Planned improperly for old age.
2.42	.78	1.88	.68	.54	NS 36.	Reluctant to adjust to social change.
2.42	.97	1.96	.81	.46	NP 7.	Preoccupied with thoughts of illness.
2.13	.80	1.71	.69	.42	NP 15.	Live in the past.
1.96	.69	1.58	.72	.38	NP 23.	Forgetful and absent-minded.

[a]Negative Attitude and Incorrect Information items reversed.

Table 8

Revised APS Information Items Arranged by Item Favorableness

Category	Item Number	Item
Positive Correct	1	Remember a short series of numbers.
	16	Responsive to sexual stimulation.
	24	Retain good vision in at least one eye.
	28	Own their own homes.
	38	Rate own health as good.
Negative Correct	4	Differentially sensitive to auditory tones.
	8	Live in central cities.
	23	Solve abstract problems correctly.
	31	Have adequate health care coverage.
	40	Maintain low heart rate under stress.
Positive Incorrect	5	Adjust body temperature to cold and heat.
	12	Carefully monitor reactions in speeded tasks
	20	Have adequate health care coverage.
	32	Integrate stimuli from many sources.
	35	Have above-average incomes.
Negative Incorrect	9	Frequently visit physicians.
	13	Extremely aware of painful stimuli.
	17	Economically reliant on own children.
	27	Can digest only bland, soft food.
	34	Receive low scores on vocabulary tests.

Table 9

Revised APS Attitude Items Arranged by Item Favorableness and Content

Category	Item Number	Item
Positive Personal	2	Wise because of their experience.
	10	Kindly to others in need.
	21	Tolerant of other people's faults.
	26	Enjoy being with children.
	36	Even-tempered and stable.
Negative Personal	3	Preoccupied with thoughts of illness.
	11	Live in the past.
	18	Forgetful and absent-minded.
	25	Stern and reserved.
	33	Rejecting of young people.
Positive Social	6	Treated unfairly by society.
	14	Prevented from earning a living.
	19	Rejected by young people.
	30	Kept isloated from their communities.
	37	Forced into poverty by inflation.
Negative Social	7	Place excessive strain on the economy.
	15	Get preferential treatment by government.
	22	Given ample chances to interact with the young.
	29	Make it hard for others to get jobs.
	39	Have undue control in politics.

Table 10

Principal Axis Factor Analysis
Promax Factor Pattern
Revised APS
(n=185)

Factor	Loading	Scale		Item
1	.31	PC-C	1.	Remember a short series of numbers
	-.46	NA-P	3.	Preoccupied with thoughts of illness
	-.51	NA-P	11.	Live in the past
	-.55	NA-P	18.	Forgetful and absent-minded
	-.45	NA-P	25.	Stern and reserved
	-.49	NA-P	33.	Rejecting of young people
	-.57	NA-S	7.	Place excessive strain on the economy
	-.52	NA-S	15.	Get preferential treatment by government
	-.58	NA-S	29.	Make it hard for others to get jobs
	-.38	NA-S	39.	Have undue control in politics
	-.36	NI-H	9.	Frequently visit physicians
	-.47	NI-D	17.	Economically reliant on own children
	-.55	NI-Ph	27.	Can only digest bland, soft, food
	-.49	NI-C	34.	Receive low scores on vocabulary tests
	-.37	NC-H	31.	Have at least one chronic disease
	.50	PC-Pe	24.	Retain good vision in at least one eye
2	.31	NC-Pe	4.	Differentially sensitive to auditory tones
	.64	NC-C	23.	Solve abstract problems correctly
	.38	NC-Ph	40.	Maintain low heart rate under stress
	.28	PI-Ph	5.	Adjust body temperature to cold and heat
	.46	PC-Ph	16.	Responsive to sexual stimulation
	.35	PC-D	28.	Own their own homes
	.43	PC-H	38.	Rate own health as good
3	.64	PA-S	6.	Treated unfairly by society
	.63	PA-S	14.	Prevented from earning a living
	.65	PA-S	19.	Rejected by young people
	.56	PA-S	30.	Kept isolated from their communities
	.42	PA-S	37.	Forced into poverty by inflation
	-.57	PI-H	20.	Have adequate health care coverage
	-.44	PI-D	35.	Have above-average incomes
4	.57	PA-P	10.	Kindly to others in need
	.54	PA-P	21.	Tolerant of other people's faults
	.59	PA-P	26.	Enjoy being with children
	.51	PA-P	36.	Even-tempered and stable

Table 11

Revised APS Information Item Statistics (n=185)

Item Category	Content	Item	M	sd
Positive Correct	C	1	3.47	.73
	Pe	24	2.38	.83
	Ph	16	2.41	.86
	D	28	2.22	.81
	H	38	2.21	.78
Negative Correct	C	23	2.26	.74
	Pe	4	2.56	.77
	Ph	40	1.79	.75
	D	8	2.41	.67
	H	31	1.86	.82
Positive Incorrect	C	12	2.96	.67
	Pe	32	2.39	.78
	Ph	5	2.50	.92
	D	35	3.36	.70
	H	20	2.91	.89
Negative Incorrect	C	34	3.33	.64
	Pe	13	2.29	.79
	Ph	27	3.15	.77
	D	17	2.95	.71
	H	9	2.32	.77

C = Cognition
Pe= Perception
Ph= Physiological
D = Demography
H = Health

Table 12

Revised APS Attitude Item Statistics (n=185)

Item Category	Item	M	sd
Positive Personal	2	2.92	.74
	10	2.78	.71
	21	2.52	.81
	26	3.07	.80
	36	2.51	.70
Negative Personal	3	2.57	.79
	11	2.74	.76
	18	2.85	.67
	25	2.91	.66
	33	3.32	.66
Positive Social	6	2.94	.87
	14	2.78	.82
	19	2.60	.85
	30	2.17	.78
	37	2.44	.77
Negative Social	7	3.25	.79
	15	3.08	.79
	22	3.22	.83
	29	3.68	.61
	39	3.40	.71